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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,787	10/24/2003	Schat Sutardja	MP0400	2332

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HARNES, DICKEY & PIERCE P.L.C.
5445 CORPORATE DRIVE
SUITE 200
TROY, MI 48098

EXAMINER

PATEL, RAJNIKANT B

ART UNIT	PAPER NUMBER
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2838

MAIL DATE	DELIVERY MODE
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08/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/693,787

Applicant(s)

SUTARDJA, SEHAT

Examiner

Rajnikant B. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-243 is/are pending in the application.
- 4a) Of the above claim(s) 24-74, 98-154, 173-186 and 189-239 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23, 75-97, 155-172, 187, 188 and 240-243 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim Claims 1, 3-23, 75, 77-97, 187-188 and 240-243 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,3-23,75, 77-97,187-188 and 240-243 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (U.S. Patent # 6,853,568) in combination with Riggio et al. (U.S. patent # 6,493,242) and further in combination with Wittenbreder, Jr. (U.S. Patent # 5,402,329).

Li et al. disclose the claimed subject matters a coupled inductor for converting energy from a source of input to an output (figure 1-8), including a at least two conduction switches (figure 1, item 112 and 115), at least two inductor (figure 1, item 114 and 117), at least two freewheeling switches (figure 1, item 113 and 116), a drive circuit (column

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2, line 25-30), a synchronous rectifier (column 2, line 30-35), series structure and turn ratio (column 2, line 45-50), However Li et al. does not disclose the utilization of the technique for a drive circuit has a duty cycle approximately 50%, the drive signals synchronous to clock signals, a fly back topology, a boost topology, a voltage ratio and a common core inductors that mutually cancel DC currents due to their respective polarities and that have a coefficient of coupling approximately equal to one. Riggio et al. teaches the utilization of the similar technique a drive circuit has a duty cycle approximately 50%, the drive signals synchronous to clock signals (column 6, line 20-50), a fly back topology (column 11, line 35-50), a boost topology (column 7, line 25-40), a voltage ratio (column 22, line 15-35) and Wittenbreder, Jr. teaches the utilization of the similar technique for a common core inductors that mutually cancel DC currents due to their respective polarities and that have a coefficient of coupling approximately equal to one (figure 11, column 5, line 20-65 and column 19, line 5-60) It would have been obvious one having ordinary skill in the art at the time the invention was made to modify Li et al.'s voltage regulator by utilizing the technique taught by Riggio et al. and Wittenbreder, Jr. for the purpose of increase the efficiency of the voltage regulator circuit.

Claims 2, 76 and 155-172 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (U.S. Patent # 6,853,568) in combination with Riggio et al. (U.S. patent # 6,493,242) and further in combination with Wittenbreder, Jr. (U.S. Patent # 5,402,329), Wittenbreder (U.S. Patent # 6,822,427) and A.F. Podell (U.S. Patent # 3,529,233).

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Li et al. in combination with Riggio et al. disclose the claimed subject matters as explained in the claims 1,75 and 155 above, except the utilization of the technique for the coefficient of coupling is approximately at least, 0.99 boost and fly back topology, and a lattice network. Wittenbreder teaches the utilization of the similar technique for the coefficient of coupling is approximately at least, 0.99, boost and fly back topology (column 27, line 30-50 and column 28, line 10-25) and A.F. Podell teaches the utilization of the technique for a lattice network (column 1, line 55-70). It would have been obvious one having ordinary skill in the art at the time the invention made to modify Li et al. in combination with Riggio et al.'s regulating circuit by utilizing the technique taught by Wittenbreder and A. F. Podell for the purpose providing a balanced input and one pole phase shifting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rajnikant B. Patel whose telephone number is 571-272-2082. The examiner can normally be reached on 6.30-5.00; m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rajnikant B Patel
Primary Examiner
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